

NOTES ON COLOUR-VARIATIONS OF OPOSSUMS OF THE GENUS *TRICHOSURUS*.

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THE great variation in the colour and markings of the opossums of the genus *Trichosurus* forwarded to the Zoological Gardens, led me, some years ago, to study them systematically, with a view to determining whether the different forms were confined to definite regions. The following notes are based on the examination of a large series of both specimens and skins, and I have to thank the Curators of the Australian Museum (Sydney), the National Museum (Melbourne), the Adelaide Museum and the West Australian Museum for kind permission to examine skins in their charge. I am also indebted to Mr. H. L. White, of Belltrees, Scone, for forwarding specimens exhibiting colour variation.

COMMON OPOSSUM, *Trichosurus vulpecula*, Kerr.

The typical form is grey on the upper parts, with a few black-tipped hairs showing through the under-fur and whitish under-parts; the muzzle, around the eyes, the chin, and the base of the ears are black; terminal two-thirds of the tail black. The tip of the tail and the posterior distal part of the ears are sometimes white, though both these markings are not necessarily present on the same animal. This form is found in the open forest country throughout Australia, with the exception of the Cape York Peninsula.

The variations noticed are as follow:—

- (a) A more or less rufous colouration ranging from a slight wash on the shoulders to an even brown or bright rufous all over the body, in which case the breast may be of a lighter hue or quite white.
- (b) A black colouration produced by a heavy growth of long black-tipped hair coming through the under-fur.
- (c) A fawn colour ranging from even fawn, through yellowish brown to cream.

As in all marsupials, albinism is fairly common, and albinos generally have white offspring.

Brown specimens are most common in Tasmania, and Mr. Robert Hall states that they are chiefly confined to the moist, heavily timbered districts. Out of 4,000 skins exported from Tasmania in 1914, 20 per cent. were brown. On the mainland a more or less brown colouration is very common, particularly in the drier districts; it is more pronounced in Queensland, especially in the north-east, where the form described as *Trichosurus johnstonii*, Ramsay, was first procured. I have examined the fine series of brown specimens in the Australian Museum, and find great variation, there being intermediate forms from grey-brown to bright rufous with a white breast; it also includes examples with white-tipped tails and ears, as in the grey form. As the teeth do not show any variation, and as brown specimens are found in other parts of Australia, I consider *T. johnstonii* is just a local colour variation of *T. vulpecula*, as has already been recognised by Dr. Ramsay. Fawn-coloured animals have been noted from Central Queensland and at Herberton.

A black race is found in the heavily-timbered country round the Colley district and Yallingup, West Australia. This colour is caused by a pronounced growth of long silky black hair coming through the grey under-fur, which, on the back, may measure three inches in length; the breast is whitish or pure white.

It is interesting to note that the descendants of Tasmanian opossums turned out near Lyttleton, New Zealand, some twenty-five years ago, already show variation from the typical form, in that the black silky hair is much more pronounced; the animals are thus darker and the fur longer and less dense.

Animals from North-West Australia have the hair on the tail scanty towards the tip. Opossums from Deal and Flinders Island have slightly smaller ears in proportion to their size than those from the mainland, but are otherwise similar to *T. vulpecula*, and show the same colour variations.

Variation in size is also noticeable, the largest examples coming from Tasmania, while the size is gradually reduced as the species ranges northwards. Generally speaking, animals found in fairly heavy forest country are large, while those from dry districts are smaller. In support of this it may be noted that specimens from forest lands on the north coast of New South Wales are similar in size and appearance to those from Tasmania, and further resemble them in having smaller ears in proportion to the body.

The following are measurements of specimens from various localities, three being measured in each case:—Tasmania: Body, 46-58 cm.; Flinders Island, Bass Strait: Body, 43-45.3 cm., tail 28-35 cm.; New South Wales: Body, 48-53.5 cm., tail 25.3-28 cm. Western Australia: Body, 35-36.5 cm.; North-western Australia: Body, 32-39 cm., tail 24-28 cm.; North-eastern Queensland: Body, 43-47 cm., tail 36-39 cm.

MOUNTAIN OR SHORT-EARED OPOSSUM, *Trichosurus caninus*, Ogilby.

This animal has a much more restricted range than *T. vulpecula*, being confined to the Great Dividing Range, which extends from Victoria to Queensland.

The typical form is found in heavy forest country on the ranges, and chiefly on the stringy bark timber. It has dense grey fur with a whitish breast. In the British Museum catalogue of Marsupalia and Monotremata, Mr. Oldfield Thomas states that the colour is dark grey or deep umber brown. This is evidently a mistake, for *T. caninus* does not show any brown, though skins of the form here described as *T. caninus nigrans*, after having been in spirits, turn brown.



H. Burrell, photo.

*Trichosurus caninus nigrans*, sub-sp. nov.

BLACK OPOSSUM, *Trichosurus caninus nigrans*, sub-sp. nov.

In general appearance and size this form is similar to the typical *T. caninus*; its fur is short, fine, silky, and black, sometimes showing a slight admixture of grey hair, particularly on the breast; the ears are short and evenly rounded; irides brown. Skull and teeth as in *T. caninus*. The type is in the Australian Museum.

This well marked sub-species is found in the heavy coastal scrubs in North-eastern New South Wales and Southern Queensland.

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